CLAIMS

1. Device for the reception of a multicarrier signal, formed by a set of carrier frequencies, said device implementing at least two reception paths (10_1 and 10_2) supplied with data flows, each conveying the same source symbols, each of said paths comprising estimation means (105_1, 105_2), associating, with each source symbol received, an estimated path value and a corresponding piece of path confidence information

a source symbol being conveyed by a subset of said set of carrier frequencies,

characterized in that it comprises means for the combination (11) of said estimated path values delivering

- an adapted estimated value, obtained from said estimated path values, in taking account of said path confidence information to weight said estimated path values; and
- an adapted confidence information element, as a function of said path confidence information elements,

weighted-input decoding means (12) supplied by said adapted estimated values.

2. Reception device according to claim 1, characterized in that said estimation means (105_1, 105_2) comprise means for the estimation of the transmission channel, delivering said path confidence information elements.

3. Reception device according to any of the claims 1 and 2, characterized in that said adapted estimated value is computed as follows:

$$\hat{x}_{Adap,n} = \left(\sum_{i=1}^{N} cnfd_{i,n} \times \hat{x}_{i,n} \right) / \left(\sum_{i=1}^{N} cnfd_{i,n} \right)$$

where:

$\hat{x}_n$ is the estimated value of the symbol received on the path i;

$cnfd_{i,n}$ is the corresponding path confidence information element; and

N is the number of paths.

4. Reception device according to any of the claims 1 to 3, characterized in that, said adaptive confidence information element is computed as follows:

$$cnfd_{Adap,n} = \sum_{i=1}^{N} cnfd_{i,n}$$

where:

$cnfd_{i,n}$ is the confidence information element associated with the path i; and

~~N is the number of paths.~~

5. Reception device according to any of the claims 1 to 4, characterized in that it implements at least two antennas (101_1, 101_2), supplying distinct reception paths.

6. Reception device according to any of the claims 1 to 5, characterized in that each of said reception paths comprises a first module shaping and demodulating the received signal and a second module determining said estimated path values and said corresponding confidence information elements,
said device furthermore comprising a single module supplied by said second modules, and providing especially for the combination (11) delivering said adapted estimated values and a weighted-input decoding (12) supplied by said adapted estimated values.

7. Method for the reception of a multicarrier signal, formed by a set of carrier frequencies transmitted simultaneously, implementing at least two reception paths supplied with data flows, each conveying the same source symbols, each of said paths implementing a step of estimation of the transmission channel associating, with each source symbol received, an estimated path value and a corresponding path confidence information element,
a source symbol being conveyed by a subset of said set of carrier frequencies,
characterized in that it comprises:

- a combination step delivering:
  - an adapted estimated value, obtained from said estimated path values in taking account of said path confidence information to weight said estimated path values ; and
  - an adapted confidence information element with each of said adapted estimated values, as a function of said path confidence information elements,
- a step of weighted-input decoding, supplied by said adapted estimated values.

~~8. Use of a device and/or of the method according to any of the claims 1 to 6~~ and/or of the method according to claim 7, for the reception of data belonging to at ~~least one of the following applications~~:

- the broadcasting of digital television signals;
- the broadcasting of audio-digital signals;
- radio telephony;
- the transmission of data signals.

Sub a2